

**WHAT IS CLAIMED IS:**

1. A method of treating or preventing gram-negative endotoxin-induced thymic atrophy comprising administering to a patient in need of said treatment or prevention an amount of an agent that inhibits leukemia inhibitory factor (LIF) induction of thymic corticosteroids sufficient to effect said treatment or prevention.
2. The method according to claim 1 wherein said agent is a LIF antagonist.
3. The method according to claim 2 wherein said agent inhibits intrathymic production or function of LIF.
4. The method according to claim 2 wherein said agent inhibits intracellular or membrane associated events that occur between LIF and a LIF receptor.
5. The method according to claim 2 wherein said agent is an antibody, or fragment thereof, that inhibits interaction between LIF and a LIF receptor.
6. The method according to claim 2 wherein said agent is a soluble LIF receptor, or mimic

thereof, that inhibits interaction between LIF and a LIF receptor.

7. The method according to claim 1 wherein said agent inhibits LIF expression.

8. The method according to claim 7 wherein said agent is an antisense molecule or a ribozyme.

9. The method according to claim 7 wherein RNA interference is used to effect said inhibition of LIF expression.

10. The method according to claim 1 wherein said antagonist is administered directly to the thymus.

11. The method according to claim 1 wherein said method further comprises administering to said patient a compound that promotes thymic activation or growth.

12. The method according to claim 1 wherein said patient is a human.

13. A composition comprising a LIF antagonist and a compound that promotes thymic activation or growth.

14. A method of screening a test compound for the ability to inhibit LIF induction of thymic atrophy comprising:

- i) administering LPS to a rodent in an amount sufficient to induce thymic atrophy,
- ii) treating said rodent with a test compound,
- iii) determining the effect of said test compound on systemic or intrathymic corticosteroid levels, as compared to an LPS-treated control rodent,

wherein a test compound that inhibits LPS-induced corticosteroid production inhibits said LIF induction of thymic atrophy.

15. The method according to claim 14 wherein said rodent is a mouse.